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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,942	09/05/2003	Naoya Hasegawa	9281-4591	7018

7590 08/28/2006

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P.O. Box 10395  
Chicago, IL 60610

EXAMINER

KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/655,942

Applicant(s)

HASEGAWA, NAOYA

Examiner

Paul D. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29 and 31-62 is/are pending in the application.
- 4a) Of the above claim(s) 37-60 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29, 31-36, 61 and 62 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This office action is a response to the amendment filed on 6/1/2006.

1. This application is in condition for allowance except for the following formal matters:

#### **IN THE CLAIM**

**Re. Claim 29:** Before the phrase "antiferromagnetic layer" as recited in line 4, change "an" to --a first--for consistency.

Before the phrase "upper surface" as recited in line 15, change a word "the" to --an--.

Before the phrase "both ends" as recited in line 19, delete "the".

Before the phrase "top of the multilayer film" as recited in line 19, change a word "the" to --an--.

After the phrase "wherein" as recited in line 22, change the phrase "an underlying layer is" to --underlying layers are--.

**Re. Claims 31-36, 61 and 62:** Before the phrase "method" as recited in line 1, change "A" to --The--.

**Re. Claim 35:** After the phrase "is made of" as recited in line 3, change the phrase " $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>" to -- $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>--.

**Re. Claim 36:** After the phrase "wherein" as recited in line 2, the phrase "the antiferromagnetic layer" lacks antecedent basis.

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After the phrase "is made of" as recited in line 3, change the phrase " $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>" to -- $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>--.

**Re. Claim 61:** After the phrase "ion beam sputtering" as recited in line 3, change the phrase "long throw sputtering" to --long stroke sputtering--.

**Re. Claim 62:** Before the phrase "center thereof" as recited in line 4, change the phrase "the" to --a--.

Before the phrase "that extend from" as recited in line 5, change the phrase "protions" to --portions--.

**Cancelled the non-elect claims 37-60.**

2. Claims 29, 31-36, 61 and 62 are allowed.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

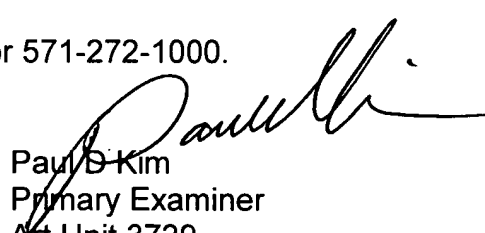
A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Thursday between 6:00 AM to 2:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul D. Kim  
Primary Examiner  
Art Unit 3729